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CHARLES ELMORE

Supreme Court of the United States

October Term, 1930

No. 54

CARBICE CORPORATION OF AMERICA,
Petitioner,

vs.

AMERICAN PATENTS DEVELOPMENT CORPORATION and DRY ICE CORPORATION OF AMERICA,
Respondents.

BRIEF FOR PETITIONER.

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IN THE

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Respondents.

BRIEF FOR PETITIONER.

This case is a patent infringement suit, before this Court on writ of certiorari issued to the Circuit Court of Appeals for the Second Circuit.

Opinions of the Courts Below.

Judge CAMPBELL, in the Eastern District Court of New York, rendered an opinion in this case (Rec., p. 429; 25 Fed. (2) 730) holding that the patent in suit was not infringed, as charged in the bill, and therefore a ruling on validity was not required. The Court of Appeals for the Second Circuit, in an opinion by Judge SWAN, reversed the District Court and held the patent to be valid and infringed (Rec., p. 441; 38 Fed. (2) 62).

Jurisdiction.

The date of the judgment to be reviewed is February 10, 1930 (Rec., p. 453). The case is here on writ of certiorari granted by this Court on April 21, 1930, on a petition filed within three months of the date of said judgment. The jurisdiction of this Court is invoked under Judicial Code 240 (a), as amended by the Act of February 13, 1925. The cases believed to sustain the jurisdiction are:

White v. *Mechanics Security Corporation*, etc., 269 U. S. 283;

I. T. S. Rubber Co. v. *Essex Rubber Co.*, 272 U. S. 429;

Alexander Milburn Co. v. *Davis-Bournonville Co.*, 270 U. S. 290.

Assignment of Errors to be Urged.

Of the errors assigned (Rec., p. 436), it is intended to urge the following:

1. The Court of Appeals erred in reversing the decree of the District Court, and holding the Slate patent to be valid or infringed.

2. The Court of Appeals erred in failing to hold that the law established by the decisions of this Court in *Morgan Envelope Co.* v. *Albany Paper Co.*, 152 U. S. 425; and *Motion Picture Patents Co.* v. *Universal Film Co.*, 243 U. S. 502 was controlling and dispositive of the litigation.

3. The Court of Appeals erred in holding that the alleged invention of the Slate patent constituted a "manufacture", or was patentable under Section 4886 R. S.

Statement of the Case.

The suit was brought in the Eastern District of New York by Respondents, American Patents Development Corporation and Dry Ice Corporation of America, for infringement of Slate patent No. 1,595,426, granted August 10, 1926, on an application filed January 10, 1924. The American Patents Development Corporation is the owner of the Slate patent, but is not a manufacturing concern. The Dry Ice Corporation of America is the exclusive licensee under the patent, and was engaged in the manufacture and sale of an unpatented refrigerant (solidified carbon dioxide), which it sold under the trade name "DRY ICE".

The defendant below (Petitioner in this Court), is Carbice Corporation of America, a Delaware corporation. This company was engaged in the manufacture and sale of the same unpatented refrigerant (solidified carbon dioxide), which it sold under the trade name "CARBICE". By reason of its sale of its unpatented refrigerant, Carbice Corporation was charged with *contributory* infringement of the Slate patent for *"Refrigerating Apparatus"*.

Carbon dioxide is an element of nature, usually obtained in the form of a gas, and has the chemical symbol CO_2. For at least fifty years prior to the filing date of the Slate patent in suit, it was known that carbon dioxide may exist either as a gas, a liquid, or a solid, depending upon the conditions of temperature and pressure to which it is subjected. (See, for example, Deft.'s Ex. C, Rec., pp. 278, *et seq.*) As a solid it has an excessively low temperature, approximately –110° F.* Its manufacture in solid form, and its use as a refrigerant in lieu of ordinary water ice, was likewise well known. (See, for example, Tichborne British Patent No. 13,684 of 1891, Rec., p. 367; Elworthy British Patent No. 7,436 of 1895, Rec., p. 371.)

* The literature of the early art records instances where the temperature of solid carbon dioxide was as low as –140° F.

Subject Matter of the Litigation.

The Slate Patent.

The Slate patent (Rec., p. 187) is not directed to any method of producing solid carbon dioxide, or to solid carbon dioxide, *per se* (both being very old in the art), but is directed to *a particular arrangement of the old, unpatented solid carbon dioxide relative to food stuffs to be refrigerated thereby in transporting such food stuffs.*

The patent points out (Rec., p. 187, fol. 270) that the invention is directed—

> "to refrigerating perishable products by means of frozen carbon dioxide enclosed in a suitably insulated container *which has the products to be refrigerated above, below and around it* so that its insulated walls operate to absorb heat from the perishable products and from the surrounding atmosphere within the refrigerator, and to apply said heat to the frozen carbon dioxide whereby it is absorbed as latent heat, producing a corresponding amount of intensely cold carbon dioxide gas without any immediate liquid state, said gas being liberated in operative relation to refrigerate such products, dry them, and protect them from air." *

Referring to Fig. 1 of the patent (Rec., p. 187), it will be seen that the solid carbon dioxide (22) is placed in the *center* of a container (20) and is *surrounded on all sides* by packages of perishable food stuffs, such as cartons of ice cream (57).

The patent, after describing the drawings, points out (Rec., p. 188, fol. 270):

---

* Italics in this brief are ours unless otherwise stated.

"By making the snow chamber 22 of the proper size to displace a given number of packages of the perishable products to be shipped *and by filling chamber 22 with frozen carbon dioxide and placing it in the midst of the said products shipped*, it will slowly and gradually refrigerate those products by the escaping gas which forces its way under the lid of the chamber 22 and continuously keeps the air and moisture displaced."

Again, the patent states (Rec., p. 188, fols. 270-271):

"From the above, it will be evident that my present invention differs from all of the other forms described in my said prior application and patent in the particular that *the carbon dioxide snow or ice refrigerant is in or among packages or masses of the perishable products whereby certain portions of the perishable products are in close proximity to this intense refrigerant, as for instance, portions of packages in contact with the regrigerant container, while other portions are relatively remote, as for instance, those near or in contact with the outer walls of the shipping or storage case.*"

By placing the solid carbon dioxide in the *center* of the material to be refrigerated, when the solid carbon dioxide "sublimes", i. e., evaporates into a gaseous state without passing through the liquid state, the carbon dioxide gas, being of a temperature of approximately –110° F., also has refrigerative effect on the material to be refrigerated, and forms a gaseous insulation for the centrally located solid carbon dioxide.

From the foregoing, it will be apparent that what has been described as the "invention" of the patent, is the *particular location* of the solid carbon dioxide relative to the materials to be refrigerated, viz: placing the particular refrigerant in the *midst* of the food stuffs so that the latter will be *above, below and around* the refrigerant.

The claims of the patent involved in the suit (Nos. 2, 3, 4 and 6, Rec., p. 190) establish, on the mere reading thereof, that the patent is not concerned with any particular kind of container, nor with any particular kind of food stuff to be refrigerated.

It will also be noted that none of the claims are directed to a process of solidifying carbon dioxide, or to any process of effecting refrigeration. On the contrary, the claims define *a physical structure*. The physical structure is specified as "a heavily insulated package" (claim 2) and "a transportation package" (claims 3 and 6 and, by inference, claim 4).

Claim 2 describes the alleged invention in terms of a function which can only be served, as pointed out in the specification, by placing the refrigerant in the *midst* of—*completely surrounded by*—the parcels containing the material to be refrigerated.

Claim 3 provides that the material to be refrigerated (called "freezable products") is "arranged so that said frozen carbon dioxide is less accessible for exterior heat than said freezable products". Of course, this condition can only be satisfied by placing the solid carbon dioxide in the *midst* of—*surrounded by*—the "freezable products".

Claim 4 specifies that the freezable products are in close proximity to the solid carbon dioxide, and insulated therefrom by the evolved gas. Here, again, this condition can only be satisfied by *the particular arrangement* of the solid carbon dioxide in the *middle* of the materials to be refrigerated. The fact that the carbon dioxide sublimes into a gas, is, of course, its inherent physical property.

Similarly, claim 6 specifies that the freezable product is "arranged so that said frozen carbon dioxide is less accessible for exterior heat than said freezable products".

As pointed out with respect to claim 3, this condition can only be satisfied by placing the solid carbon dioxide in the *middle* of the material to be refrigerated.

From the foregoing it will be seen, as has been hereinbefore stated, that the alleged invention of the patent, and the monopoly purported to have been granted by the claims thereof, consists of *a particular locational arrangement* of an old, unpatented refrigerant (solid carbon dioxide, a product of nature in frozen form) relative to any material to be refrigerated, with both the refrigerant and the material enclosed in any kind of a container, box, or the like, to form a transportation package.

This fact was quite apparent to the Court of Appeals below. It correctly stated, with respect thereto (Rec., p. 442, fol. 576)—

> "Carbon dioxide (CO_2) may exist as a gas, a liquid, or a solid, depending upon the conditions of temperature and pressure to which it is subjected. As a solid it has an excessively low temperature of approximately –140° F. When solid carbon dioxide absorbs heat it sublimes, that is, it evaporates as a gas without passing through the liquid state. This gas is itself very cold, having a temperature of –110°. The rate of evaporation is slow, and one volume of commercial solid carbon dioxide will evolve approximately 500 volumes of gas. These facts were known long before the patentee Slate entered the field. Prior patents show machines and processes for producing solid carbon dioxide and molding it into bricks or blocks. They suggest its use as a refrigerant and as a substitute for water ice, but none of them suggest *the arrangement of refrigerant and things to be refrigerated* which the patentee insists upon."

Likewise, the Court stated (Rec., p. 444, fol. 579)—

> "It (the Slate patent) is not a patent for a process. Process claims, originally included in the divisional application, were rejected and the rejection was acquiesced in. As issued, the patent is only for a 'refrigerating apparatus', consisting of a combination of elements, all old, but combined, it is urged, *in a novel arrangement* to produce new and useful results in the art of refrigeration."

Further, the Court stated (Rec., p. 445, fol. 579)—

> "We are satisfied that Slate discovered how to make up a package consisting of freezable food stuffs, solid carbon dioxide, and their refrigerating container, *in an arrangement* not previously known and producing the new and useful result of making practicable the shipment of such food stuffs to greater distances than was previously possible. That this discovery would be patentable as a process we cannot seriously doubt."

Finally, the Court said (Rec., p. 447, fol. 583 at bottom):

> "*The patent states the physical arrangement of the elements which make up the claimed combination.* While the relative quantities of food stuff and dry ice will vary with the size of the package, length of journey, etc., the claimed *arrangement* of elements remains constant. *It is the arrangement which is vital.*
>
> As to the attack upon validity founded upon the assertion of prior knowledge and use, it seems sufficient to say that while the evidence discloses knowledge of the general properties of solid carbon dioxide, it shows clearly that *no one before the patentee had thought of using the food stuffs as insulation for the carbon dioxide* nor of utilizing the gas generated upon sublimation as additional insulation, and also as a refrigerant of the remote portions of the food

stuffs; that is to say, *no one had made up a package with the solid carbon dioxide in the center*—no one had utilized the known properties of the refrigerant *by the specific arrangement* discovered by the patentee."

With this specific thing, alleged to be the invention of the patent, in mind, let us consider, more in detail, the commercial operations of Plaintiffs (Respondents) and Defendant (Petitioner), respectively, to show (1) in what manner Respondents have utilized the patent, in an attempt to create, we submit, an illegal monopoly, and (2) the operations of Petitioner which are before the Court under the charge of infringement of the patent.

Commercial Operations of Respondent, Dry Ice Corporation of America.

Dry Ice Corporation was engaged in the manufacture and sale of solid or "frozen" carbon dioxide. Every sale made by it was made subject to the conditions printed on its invoice (Pltf's. Ex. 7, Rec., opposite p. 196), as follows:

> "The merchandise herein described is shipped upon the following condition: That Dry Ice shall not be used except in Dry Ice Cabinets or other containers or apparatus provided or approved by the Dry Ice Corporation of America; and that Dry Ice Cabinets or other containers or apparatus provided or approved by the Dry Ice Corporation of America shall be refrigerated or used only with Dry Ice. These uses of Dry Ice are fully covered by our basic method and apparatus patent No. 1,511,306 granted October 14, 1924 and other patents pending."*

From this it will be seen that the Dry Ice Corporation attempted to create a monopoly in the unpatented refriger-

* The patent here identified is *not* the patent in suit.

ant, and in unpatented containers, by requiring, as a condition of the sale of its frozen carbon dioxide,

(1) that the customer would use the frozen carbon dioxide only in cabinets or containers *"provided or approved"* by the Dry Ice Corporation;

(2) that the customer would use the cabinets or other containers "provided or approved" by the Dry Ice Corporation only with the unpatented frozen carbon dioxide bought from the Dry Ice Corporation.

In other words, Respondent has attempted to create a monopoly in unpatented commodities of commerce, comprising unpatented boxes or other containers, and an unpatented refrigerant, by means of a patent, the invention of which is the locational position of the unpatented refrigerant in the unpatented container. Wholly aside from the impossibility of considering the claims of such a patent to be valid under the patent statutes, such conditions of sale are quite obviously violations of Section 3 of the Clayton Act, as will be hereinafter pointed out.

Commercial Operations of Petitioner, Carbice Corporation of America.

As hereinbefore stated, the Carbice Corporation was engaged in the manufacture and sale of the same product of nature, carbon dioxide, in solid or frozen form, under the trade name "Carbice". It solicited orders for its product wherever there was a demand therefor. It solicited an order from a customer of Dry Ice Corporation, named Marchiony. The testimony of Marchiony constitutes the sole evidence of infringement in the case, and is contained on pages 28 to 33, inclusive, of the record.

Marchiony testified (Rec., p. 28, fol. 45)—

"We refrigerate our ice cream with dry ice. Solid carbon dioxide. In packing and shipping ice cream we use various insulated containers of corrugated board or Balsa board, mineral wool, and so forth, and we pack the ice cream around the container and place the solid carbon dioxide in the center so as to refrigerate the contents, the ice cream."

The witness accepted as correct (Rec., p. 29) the drawings (Pltf's. Exs. 11 and 12, Rec., p. 197) illustrating his method of shipment, in which, it will be noted, the solid carbon dioxide is placed in the *center* of the outside container, and is *completely surrounded* by the packages of the ice cream to be shipped.

Marchiony became a customer of the Dry Ice Corporation through its representative, Mr. Cussack, who, according to Marchiony (Rec., p. 30, fol. 48),

"came to me, sold me the idea, told me how to ship it, how to pack it *and told me where to get the cartons and boxes.*"

With further reference to the matter of acquisition of cartons, boxes, or containers, the witness testified under cross examination (Rec., p. 32, fol. 51):

"Q. And I think you also testified that when the Dry Ice people first interested you in using solid carbon dioxide they told you where you could get the cartons, and you did not change the place you were getting your ice cream cartons from, did you?

A. Yes, we did change. We got the ice cream cartons from a different place. *A different printer made up our cartons at various times, depending on the price submitted and the quantities. The price and delivery was an important feature for us, and we changed the places we got the outside cartons, depending on price and delivery. We do not get the*

consent of the Dry Ice Company each time we change the place where we get our ice cream cartons or outside cartons."

It will be seen from the foregong that while the Dry Ice Corporation initially told its customer where to get the cartons, boxes and containers, the customer thereafter acquired the containers wherever he saw fit, dependent solely upon price and delivery, without protest by Respondent.

The circumstances under which Marchiony also became a customer of the Carbice Corporation are set forth by Marchiony in the following language (Rec., p. 30, fols. 48, 49):

"We have purchased solid carbon dioxide from the defendant in this case, the Carbice Corporation of America. The circumstances under which we purchase such solid carbon dioxide were these: We were approached by Mr. Clark of the Carbice Company. The ice was offered to us at a lower price, therefore we found it to advantage to buy it from the Carbice Corporation, *and we split the business between the Carbice and the Dry Ice.*

The price at which they sold it to us I believe was 4½ cents. I believe we had some correspondence with the Carbice Corporation at the time we began to buy solid carbon dioxide from them."

The witness further testified (Rec., p. 31, fol. 50):

"I have already stated how we were using solid carbon dioxide at the time Mr. Clark came to see us in March, 1927. While we were purchasing this solid carbon dioxide from the Carbice Corporation we used it as stated before, in the same manner and form and method. There was no change at all in the way we used the solid carbon dioxide purchased from the Carbice Corporation."

The correspondence, referred to by the witness, between himself and Mr. Clark is reproduced in the record at pages 197 and 198 as Plaintiff's Exhibits 13 and 14.

The first letter (from Marchiony to the Carbice Corporation) states:

> "Dear Sir:
>
> Referring to your offer to sell us Dry ice at 4½¢ per pound, as this is cheaper than we are able to buy carbon dioxide from the Dryice Corporation, we are willing to try your product at the price in question, provided that you will give us a written assurance that it will give us as satisfactory results in shipping ice cream under our present conditions of use as the product of the Dryice Corporation and you will be prepared to keep us supplied after we begin using it.
>
> In justice to ourselves, we cannot change our present source of supply other than as above stated."

The written assurance, thus requested, was given Marchiony in a letter from the Carbice Corporation signed by Mr. Clark, reading as follows (Rec., p. 198):

> "Gentlemen:
>
> Replying to your letter of March 15th, we hereby guarantee to make daily deliveries of Carbice to you in any quantities you may desire. Further, in an emergency, we will make delivery to you within two hours, between 8 A. M. and 6 P. M.
>
> *We also guarantee that Carbice will be found as satisfactory as dry ice in any and every way,* and being made under greater compression than the latter product, will prove to be a more efficient refrigerant.
>
> Assuring you we will cooperate with you in every way and advise you as to the most economical use of our product, we remain,"

The foregoing constitutes, in substance, the entire evidence of alleged infringement in the case, and may be summed up as follows:

1. All sales made by Dry Ice to its customers were made upon the condition that the customers would use the product only in containers "supplied or approved" (and hence "licensed") by the Dry Ice Corporation.

2. The customer named Marchiony, on the written assurance of Carbice Corporation that its product would "be found as satisfactory as dry ice in any and every way", purchased about half of his requirements, for a period of time, from the Carbice Corporation, and used such refrigerant in the same cartons, containers, etc., as were being used by him in connection with the refrigerant "Dry Ice" acquired from Respondent.

Thus, it will be seen that the sale by Carbice Corporation (Petitioner) of a product of nature (carbon dioxide) in a solid or "frozen" form, which is not and cannot be the subject matter of any patent (and admittedly is not the subject matter of the Slate patent in suit), constitutes the act which Respondents charge to be an infringement of the Slate patent in suit.

Of necessity, therefore, Petitioner is charged with *contributory* infringement as distinguished from *complete* or *direct* infringement. The Carbice Corporation is charged with having *contributed* to an infringing act completed by someone else. In this instance, the infringement must have been completed by Respondent's own customer, Marchiony, by locating Petitioner's refrigerant in the center of a number of packages of ice cream in an unpatented container, presumably purchased from a box or carton manufacturer pursuant to instructions and "license" of Respondent.

Issues Raised.

The foregoing facts present the following issues for determination by this Court:

1. Can the sale of an unpatented article of manufacture, perishable in nature, constitute contributory infringement of any Letters Patent of invention?

2. Can valid Letters Patent be granted under Section 4886 R. S. for the particular *arrangement* of food stuffs and a specific refrigerant in a transportation package?

3. Is the Slate patent in suit invalid for other reasons?

The following argument will be divided and presented in the above order.

Argument.

The subject matter of patent rights pertaining to refrigeration has been before this Court a number of times.*

Having in mind that the claimed invention of the patent in suit is the specific location of a refrigerant relative to the material to be refrigerated, the language of this Court in one of its very early refrigeration cases (1875) is so apt as to warrant quotation. In that case (*James Brown et al.* v. *Piper*, 91 U. S. 37; 23 L. Ed. 200) this Court said of a refrigeration patent before it—

> "The patent is not for the principle long and well known to physicists, that a low degree of cold, like a high degree of heat, prevents the decay of animal matter; nor is it for the freezing of the articles to

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*Brown v. Piper, 91 U. S. 37; 23 L. Ed. 200;
Magin v. Karle—The Beer Cooler Case, 37 L. Ed. 1118;
Roberts v. Ryer—The Icebox Refrigeration Case, 91 U. S. 150;
Belding Mfg. Co. v. Challenge Corn Planter Co., 152 U. S. 100.

> be preserved before or after they are placed in the preserving chamber; nor is it for applying, by means of an apparatus with any particular details of construction, cold to the articles to be preserved; nor is it for the frigorific effect of the freezing mixture upon the atmosphere of the inner chamber; *but it is for the application to such articles of the degree of cold necessary to preserve them, by means of 'a close chamber', in which they are to be placed, and 'a freezing mixture having no communication with the atmosphere of the preserving chamber'.*"

After holding that what the patentee claimed belonged to the general domain of knowledge and science, this Court disposed of the case with the statement—

> "Examined by the light of these considerations, we think this patent was void on its face and that the Court might have stopped short at that instrument and, without looking beyond it into the answers and testimony, *sua sponte*, if the objection were not taken by the counsel, well have adjudged in favor of the defendant."

The close analogy between the alleged invention in the above case and the alleged invention of the case at bar is believed to be striking.

FIRST POINT.

Petitioner's sale of solid carbon dioxide cannot constitute contributory infringement of any valid patent.

The charge of contributory infringement of the Slate patent is apparently based upon the fact that the specific refrigerant, viz.: solid carbon dioxide, is named as an element in the claimed combination of the patent.

Let us enumerate the undisputed facts with respect to the element, solid carbon dioxide—

1. Carbon dioxide is a product of nature, and is produced in a solid form by pressure and temperature treatment.

2. In its solid form it is inherently perishable by sublimation, *i. e.*, evaporation, and must be replaced.

3. It is unpatented, and the patent in suit is not directed to it, *per se*, or to its production.

4. The patent in suit is not even directed to the *use* of solid carbon dioxide.

5. The claimed invention is the *location* of solid carbon dioxide in a package, relative to other materials in the package.

These simple undisputed facts bring this case squarely within the law established by this Court in a case where closely analogous facts were considered.

The case referred to is *Morgan Envelope Co.* v. *Albany Paper Co.*, 152 U. S. 425, which involved a patent for the combination of a roll of toilet paper and a fixture which facilitated the consumption of the toilet paper. The defendant was charged with infringement because it sold rolls of toilet paper which were dispensed by means of the fixture. Because the patent was directed to the combination of the fixture and the toilet paper, the most that could be charged was, as in the case at bar, contributory infringement. This Court said (at page 432):

> "The real question in this case is, whether, conceding the combination of the oval roll with the fixture to be a valid combination, the sale of one element of such combination, with the intent that it

shall be used with the other element, is an infringement. We are of opinion that it is not. There are doubtless many cases to the effect that the manufacture and sale of a single element of a combination, with intent that it shall be united to the other elements, and so complete the combination, is an infringement. Saxe v. Hammond, Holmes, 456; Wallace v. Holmes, 9 Blatchford 65; Barnes v. Straus, 9 Blatchford 553; Schneider v. Pountney, 21 Fed. Rep. 399. But we think these cases have no application to one where the element made by the alleged infringer is an article of manufacture perishable in its nature, which it is the object of the mechanism to deliver, and which must be renewed periodically, whenever the device is put to use. Of course, if the product itself is the subject of a valid patent, it would be an infringement of that patent to purchase such product of another than the patentee; but if the product be unpatentable, it is giving to the patentee of the machine the benefit of a patent upon the product, by requiring such product to be bought of him. To repeat an illustration already put: if a log were an element of a patentable mechanism for sawing such log, it would, upon the construction claimed by the plaintiff, require the purchaser of the sawing device to buy his logs of the patentee of the mechanism, or subject himself to a charge of infringement. This exhibits not only the impossibility of this construction of the patent, but the difficulty of treating the paper as an element of the combination at all. In this view, the distinction between repair and reconstruction becomes of no value, since the renewal of the paper is in a proper sense neither the one nor the other."

The law established by this Court in the *Morgan Envelope* case has never been modified in the subsequent decisions of this Court,

In the comparatively recent case of *Leeds & Catlin Co. v. Victor Talking Machine Co.*, 213 U. S. 325, this Court, at page 335, reviewed its previous decision in the *Morgan Envelope* case and pointed out that the determining factor of whether or not contributory infringement could occur, was whether or not the element of the claimed combination that was sold by the alleged infringer was *perishable in its nature.* This Court said (at p. 334), of its previous decision in the *Morgan Envelope* case,—

> "The court stated the question to be whether considering the combination of the oval roll with the fixture to be a valid combination, the sale of one element of *such* (italics ours) a combination with the intention that it should be used with the other elements was an infringement. The answer was in the negative. The court, however, stated, that there were cases to the effect that the sale of one element of a combination with intention that it should be used with another was an infringement, but decided that they had no application to one where the element made by the alleged infringer was 'an article of manufacture, perishable in its nature, which it is the object of the mechanism to deliver, and must be renewed periodically whenever the device is put to use'. The case, therefore, is not a precedent for the decision of that at bar. Not one of the determining factors there stated exist in the case at bar. If the operative relation of the paper roll to the mechanism was as illustrated (and the court left no doubt that it was), that is, of the log to the saw in the mill, wheat to the rollers which grind it, pins which are produced by a patent machine,—in other words, in no more operative relation than a machine and its product are,—the invalidity of the combination was hardly questionable. *And, besides, it was made a determining circumstance that the paper perished by its use, and a periodical renewal was indicated to be a renewal 'whenever the device was put to use'.*"

We submit the foregoing law as controlling in the present case. There can be no question as to the substantial identity of facts. The unpatented products (toilet paper and solid carbon dioxide) are named as elements in a combination, *structurally* claimed, *and are perishable by nature and in use*, and, when consumed, must be replaced. We see no distinction, and submit that there is no distinction in principle, with respect to the relation between the log and the mill that saws it; the pin and the machine that makes it; the wheat and the rollers that grind it; the roll of toilet paper and the fixture which carries and supports it; and the refrigerant and the container which carries and supports it. It is true that in the case at bar the relation is not, strictly speaking, one of machine and its product. Rather, it is the relation between a package and its perishable contents. But there is nothing patentable in the combination between the container and its contents. Were the law otherwise, patentable invention could be ascribed to the combination of all containers or packages with their perishable contents, such as a cigar wrapper and its cigar, a box and the candy therein contained, a bottle and its contents. It is believed that such illustrative comparisons show not only the impossibility of treating the specific refrigerant, solid carbon dioxide, as an element of the claims, but the absurdity, as well, of considering the sale of a perishable, unpatented commodity as being capable of contributing to the infringement of any patent.

Stated another way, this Court decided in the *Morgan Envelope* case that its previous decisions in cases involving the question of contributory infringement—

> "have no application to one where the element made by the alleged infringer is an article of manufacture perishable in its nature, which it is the object of the

> mechanism to deliver, and which must be renewed periodically, whenever the device is put to use."

Surely, no distinction can be drawn between an unpatented perishable article of manufacture to be *delivered* by a mechanism, and an unpatented perishable article of manufacture to be *transported* or *used* in the mechanism? This should be, and is, we submit, particularly true where the unpatented article or commodity to be transported or used in the mechanism is an element of nature, and it is only the inherent physical properties thereof that makes its use possible or desirable.

It is quite obvious, of course, that respondents are attempting, by means of the Slate patent, to create a monopoly in the unpatented commodity, solid carbon dioxide, for use as a refrigerant in the transportation of food stuffs. This Court in no uncertain terms pointed out in *Motion Pictures Patents Co.* v. *Universal Film Co.*, 243 U. S. 502; 61 L. Ed. 871, at page 511, that the purpose of the patent laws is not for the creation of private fortunes for the owners of patents, but, rather, to promote the progress of science and the useful arts. In that case this Court also unqualifiedly condemned the practice by which

> "under color of its patent, the owner intends to and does derive its profit, not from the invention on which the law gives it a monopoly, but from the unpatented supplies with which it is used, and which are wholly without the scope of the patent monopoly, thus in effect extending the power to the owner of the patent to fix the price to the public of the unpatented supplies as effectively as he may fix the price on the patented machine" (p. 517).

The opinion concluded with the apt statement (at p. 519):

"A restriction which would give to the plaintiff such a potential power for evil over an industry which must be recognized as an important element in the amusement life of the nation, under the conclusions we have stated in this opinion, is plainly void, because wholly without the scope and purpose of our patent laws, and because, if sustained, it would be gravely injurious to that public interest, which we have seen is more a favorite of the law than is the promotion of private fortunes."

An important factor in connection with the transportation of food stuffs is of more public importance, by far, than is a device designed for amusement purposes.*

Thus, it is submitted that the sale of solid carbon dioxide by Petitioner does not and cannot constitute a contribution to an infringement of the Slate patent in suit.

There Has Been No Infringement to Which Contribution Could Be Made.

Contributory infringement necessarily requires that there be an ultimate infringement, to which a contribution has been made. There has been no ultimate infringement in the present case.

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*The Court of Appeals for the Second Circuit in an opinion written by Judge MAYER subsequent to the decision of this Court in the *Motion Pictures Patents* case, said:

"By a complete reversal of what was held in the *Button Fastener* case and in *Henry v. Dick*, and in view of the expression used in the opinion of the Supreme Court, it is plain that the Court meant to assure the free sale and use of unpatented articles of trade and commerce, unless there was some other act than the mere sale or use which contributed to the tort of infringement.

If, in the case at bar, the owner of the paper cup known as the Lily cup were restrained from the mere act of selling the Lily cup to a person whom he knew owned an infringing vending machine in which the cup was to be used, then the owner of the patent would accomplish without an agreement more than the Supreme Court has said he could accomplish with a license agreement."

Individual Drinking Cup Co. v. Errett, 297 Fed. 733, at p. 739.

We have reviewed hereinbefore the entire evidence directed to the subject matter of infringement, and which consists solely of the testimony of Respondent's customer, Marchiony. Briefly summarized (see more particularly pp. 10 to 14, *ante*), Marchiony purchased solid carbon dioxide from Respondent; was instructed where to obtain cartons and packages; and was thereby, in legal effect, "licensed" under the patents of Respondent with respect thereto. It was in these "licensed" packages and cartons that Marchiony packaged his ice cream and the refrigerant, solid carbon dioxide, obtained from *both* Respondent and Petitioner. If Marchiony's action in this regard did not constitute an infringement, then obviously Petitioner's sale of solid carbon dioxide to Marchiony (and similarly Petitioner's sale to any customer of Respondent) cannot be a *contribution* to an infringement.

In arriving at an answer to the question of whether or not Marchiony's use of Petitioner's refrigerant in the "licensed" cartons constituted an infringement, we are met at the outset with the line of authorities of this Court, beginning with the *Motion Pictures Patents* case (*supra*) and those cases involving a consideration of Section 3 of the Clayton Act with reference to patent controversies.

In the *Motion Pictures Patents* case the defendant was legally possessed of a motion picture machine manufactured under Latham patent No. 707,934. The machine had attached thereto a notice that it could be used solely with moving picture films acquired from the Motion Pictures Patents Company (or a licensee). The owner of the machine used it with film not so acquired, and hence was sued for infringement of the Latham patent. In that case the unpatented film was recited in the claims of the patent. For example, claim 1 of the patent reads—

> "The combination with devices *for supporting the bulk of a flexible film* before and after exposure, of feeding mechanisms located between the devices *for supporting the film* and separate and distinct therefrom, one of said feeding mechanisms being constructed *to uniformly feed the film* and produce a predetermined supply of slack, and the other adapted to intermittently feed the slack across the exposure window."

It will be seen, therefore, that the unpatented film of the Latham patent is just as much an element of the claim as the specific refrigerant, solid carbon dioxide, may be properly construed to be an element of the various claims of the Slate patent.

Although one of the defenses raised in the *Motion Pictures Patents* case was violation, by the plaintiff in that case, of Section 3 of the Clayton Act, this Court disposed of the controversy by answering in the negative the question propounded, viz. (p. 508):

> "May a patentee or his assignee license another to manufacture and sell a patented machine, and by a mere notice attached to it limit its use by the purchaser or by the purchaser's lessee, of films which are not part of the patented machine, and which are not patented?"

By pure logic it follows that Respondent cannot license its customer, Marchiony, under the Slate patent in suit, with reference to cartons, containers, etc., and by mere notice attached to its invoice limit the use of the cartons, containers, etc., to solid carbon dioxide (an unpatented commodity) purchased from Respondent. Obviously, therefore, Marchiony never infringed the patent in suit. If Marchiony never committed an infringing act, then, also obviously, Petitioner's sale of solid carbon dioxide to Marchiony cannot constitute contributory infringement.

The Clayton Act.

As pointed out by this Court in the *Motion Pictures Patents* case at page 517 (see also *United Shoe Machinery Corp.* v. *The United States*, 258 U. S. 451; 66 L. Ed. 708), by the Clayton Act, was enacted a law—

> "making it unlawful for any person engaged in interstate commerce to 'lease or make a sale or contract for sale of goods * * * machinery, supplies or other commodities, whether *patented or unpatented*, for use, consumption or resale * * * or fix a price charged therefor, * * * on the condition, agreement or understanding that the lessee or purchaser thereof shall not use * * * the goods * * * machinery, supplies or other commodities of a competitor or competitors of the lessor or seller, where the effect of such lease, sale, or contract for sale, or such condition, agreement or understanding may be to substantially lessen competition or tend to create a monopoly in any line of commerce'. 38 Stat. 730, Chap. 323."

It is too apparent to be disputed, that the obvious purpose of the condition of sale imposed by Respondent, as expressed on its invoices, was to "tend to create a monopoly" in the sale of solid carbon dioxide. Therefore, the construction given the Slate patent by the Court of Appeals for the Second Circuit is, in effect, stamping with legality under the patent laws that which is obviously illegal under the Clayton Act. There is nothing inconsistent between the Clayton Act and the patent laws, as was pointed out by this Court in the *Motion Pictures Patents* case, and this fact emphasizes, more fittingly than by further argument, that error exists in the interpretation of the Slate patent given to it by the Court of Appeals for the Second Circuit.

Petitioner Has Not Contributed to the "Transportation Package" Structure of the Slate Patent.

Another way of approaching the question of infringement is by consideration of the claims of the patent. As has been hereinbefore pointed out, the claims of the patent define *a physical structure*, viz.: a transportation package. As pointed out by this Court in the *Morgan Envelope* and *Leeds & Catlin* v. *Victor* cases (*supra*) a contributory infringer must supply a necessary part to a completed patented combination with the knowledge that the ultimate infringement will, or is apt to occur. Thus, one can contribute to the infringement of a patent for a machine by supplying a part of that machine. One may likewise contribute to the infringement of a patent for an art by performing a step in the process. Similarly, one may contribute to the infringement of a patent for an article of manufacture by contributing a part or ingredient of the manufactured article. Logically, therefore, one could contribute to the infringement of a valid patent for "a transportation package" if one supplied part of the materials employed in the fabrication of the package. But no contributory infringement would occur by merely supplying the goods to be transported by the package.

In the case at bar, solid carbon dioxide forms no part of the *structure* of the transportation package of the Slate patent; it merely comprises the refrigerant that is used in the package. It stands in exactly the same category as the food stuffs to be shipped in the package. If the specific refrigerant can be considered to be a part of the package *structure*, then, by pure logic, so can the ice cream that is refrigerated by the specific refrigerant. Pursued to its logical conclusion, the grocer who sold the sugar and other ingredients going into the ice cream, as well as the cow that

supplied the milk, would all be contributors to the infringement. There is no distinction between the refrigerant and the material to be refrigerated in the claims of the patent. If one is an element the other, of necessity, must be. Thus, the absurdity of Respondents' position and of the result brought about by the decision of the Court of Appeals for the Second Circuit, becomes apparent.

Summary.

We therefore submit as sound, indisputable propositions of law:

1. The sale of an unpatented article of manufacture, perishable in nature, cannot constitute contributory infringement of any Letters Patent of invention.

2. The Slate patent cannot be contributorily infringed by the sale of solid carbon dioxide as a refrigerant.

3. There has been no infringement proven in this case to which Petitioner could contribute, even were contributory infringement possible.

SECOND POINT.

The Slate patent is invalid as being for subject matter unpatentable under Section 4886 R. S.

Wholly apart from the question of infringement, the Slate patent is invalid on its face.

Section 4886 R. S. specifies for what subject matter Congress has authorized Letters Patent of invention to be issued. The Section is as follows:

> "Any person who has invented or discovered any new or useful *art, machine, manufacture, or composition of matter,* or any new and useful improvement thereof, not known or used by others in this country, before his invention or discovery thereof, and not patented or described in any printed publication in this or any foreign country, before his invention or discovery thereof, or more than two years prior to his application, and not in public use or on sale in this country for more than two years prior to this application, unless the same is proved to have been abandoned, may, upon payment of the fees required by law, and other due proceeding had, obtain a patent therefor."

We have developed at length (*ante*, pp. 4-9) that the alleged invention of the Slate patent consists of a particular *locational arrangement* of a specific refrigerant relative to materials to be refrigerated within an outer container to form a transportation package. Such an *arrangment* does not constitute an "art, machine, manufacture or composition of matter". Hence the patent has been improvidently granted, and is invalid.

The Alleged Invention Is Not an "Art"—

As stated by Walker on Patents, Sixth Edition, Volume 1, page 24, section 19 (and in the numerous decisions of this Court cited as authority therefor)—

> "The word 'art' has a narrower meaning in the patent law than it has in the dictionaries. In the dictionaries its significance is 'the use of means to produce a result'. *In the patent law it covers only a limited meaning of the word 'process'.*"

There can be no dispute that the claims of the Slate patent are not directed to a process, and hence the invention

thereof is not an "art". The Court of Appeals below correctly stated with respect to the patent (Rec., p. 444, fol. 579)—

> "It is not a patent for a process. Process claims, originally included in the divisional application, were rejected and the rejection was acquiesced in. As issued, the patent is only for a 'refrigerating apparatus' consisting of a combination of elements, all old, but combined, it is urged, *in a novel arrangement* to produce new and useful results in the art of refrigeration."

The Alleged Invention Is Neither a "Machine" Nor a "Composition of Matter"—

It is so obvious that the claimed invention of the Slate patent is neither a "machine" nor "a composition of matter" as those terms (as construed by numerous decisions of this Court) are used in the patent statute, that argument on the point is believed to be unwarranted.

The Alleged Invention Is Not a "Manufacture"—

The Court of Appeals below decided that the alleged invention of the Slate patent was a "manufacture" under the statute. In this we submit that the Court was in error. As pointed out in 48 Corpus Juris, page 23, section 18 (based on the cited authorities of this Court)—

> "As used in the statute the term 'manufacture' embraces whatever is made by the art or industry of man, not being a machine, a composition of matter, or a design. A manufacture is distinguished from machine by not having any rule of action, and from compositions of matter by not involving the

relation of ingredients. *The term 'manufacture' does not include natural products or natural elements; nor does it include a mere method of doing things. The function of a method or device is not included in the term 'manufacture'. A manufacture is distinct from the method or device by which it is produced.*"

Even granting, as stated by the Court below (Rec., p. 445), that the various Courts have given the term "manufacture" a most comprehensive meaning, and that it does and should include "whatever is made by the art or industry of man, not being a machine, a composition of matter, or a design", how, it is queried, can the term, by any logical interpretation, include a mere *location* of a perishable refrigerant relative to material to be refrigerated? If the invention of the patent is indeed a "manufacture", even in the broad, comprehensive sense that the Court of Appeals below construed the term, the "manufacture" must be construed to be the transportation package of the claims. Such a construction of the term "manufacture" at once encounters the insurmountable difficulty that it is not the *structure* of the transportation package which is advanced as the invention, but it is *the locational arrangement of the materials inside of the structure.* We do not question but that a novel *method* of arranging materials to be transported within a transportation package could be patented, *as a process or method*, under certain circumstances. Such novel *method* would be a fit illustration of the "art" contemplated by the statute, but such *method of arrangement* quite obviously could not form a "manufacture" by the evident subterfuge of calling the arranged materials a *structure* such as a "transportation package".

We can accept for the purposes of this case, the statement of the Court of Appeals below (Rec., p. 445) that Slate's arrangement of solid carbon dioxide in the middle of materials to be refrigerated (if new) would be patentable as a *process*. This fact alone, we submit, negatives the possibility of the alleged invention being patentable as a "manufacture". A "method" cannot be a "manufacture", and the mere statement of the function of a method, in claims drawn to a physical structure, is not included within the term "manufacture". (See Corpus Juris, *ante*, p. 29).

If, as the decision of the Court of Appeals below states, the "structure" of the article of manufacture, viz.: the transportation package, comprises the container *together* with the refrigerant and the material to be refrigerated, locationally arranged in accordance with the process or method of arrangement forming the subject matter of the patent, then the controversy is disposed of by the numerous, uniform and positive decisions of this Court to the contrary, which decisions the Court of Appeals below erroneously ignored. Obviously a "structure" of this interpretation could only be produced by the *method or process* of the locational arrangement of the refrigerant relative to the material to be refrigerated. But this is exactly what has been held *not* to be a "manufacture".

It is pointed out in Corpus Juris (*ante*, p. 29)—

> "*a manufacture is distinct from the method or device by which it is produced.*"

Citing—

> *James* v. *Campbell*, 104 U. S. 356;
> *Sewall* v. *Jones*, 91 U. S. 191;

Providence Rubber Co. v. *Goodyear*, 9 Wall. 788; 19 L. Ed. 566.*

In *Providence Rubber Co.* v. *Goodyear*, 9 Wall. 788; 19 L. Ed. page 566, the law is succinctly stated in the following language (at p. 569)—

> "A machine may be new, and the product or manufacture proceeding from it may be old. In that case the former would be patentable and the latter not. The machine may be substantially old and the product new. In that event the latter, and not the former, would be patentable. Both may be new, or both may be old. In the former case both would be patentable; in the latter, neither.
>
> The same remarks apply to processes and their results. Patentability may exist as to either, neither, or both, according to the fact of novelty, or the opposite. The patentability, or the issuing of a patent as to one, in no wise affects the rights of the inventor or discoverer in respect to the other. *They are wholly disconnected and independent facts.* Such is the sound and necessary construction of the statute."

In the recent case of *Holland Furniture Co.* v. *Perkins Glue Co.*, 277 U. S. 245, this Court stated (at p. 258) after pointing out, under a long list of authorities, that a patentee may not, by claiming a patent on the result or function of the machine, extend his patent to devices or mechanisms not described in the patent:

> "Respondent argues that this principle, applicable to machine patents, is inapplicable to a patent for

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* *Fulton Co.* v. *Janesville Laboratories*, 21 Fed. (2) 428;
Haynes Stellite Co. v. *Chesterfield*, 8 Fed. (2) 765;
Harpless Co. v. *Crawford Farms*, 287 Fed. 655;
Dunn Wire-Cut Lug Brick Co. v. *Toronto Fire Clay Co.*, 259 Fed. 258;
Proctor & Gamble Co. v. *Berlin Mills Co.*, 256 Fed. 23;
General Electric Co. v. *Laco-Phillips Co.*, 233 Fed. 96;
Durant v. *Green*, 60 Fed. 392 (affirmed 61 Fed. 819);
In re Hawkins, 20 Fed. (2) 278.

> the composition of matter which is always a result of a process and concededly is patentable as such, but the attempt to broaden product claims by describing the product exclusively in terms of its use or function is subject to the same vice as is the attempt to describe a patentable device or machine in terms of its function. As a description of the invention it is insufficient and if allowed would extend the monopoly beyond the invention."

This Court has had frequent occasion to define the term "manufacture" in tariff taxation cases. Thus, in *Kidd* v. *Pearson*, 128 U. S. 20, this Court said:

> "The manufacture is transformation—the fashioning of raw materials into a change of form for use."

Again, in *Tide Co.* v. *United States*, 171 U. S. 216, this Court said:

> "The primary meaning of the word 'manufacture' is something made by hand as distinguished from a natural growth; but, as machinery has largely supplanted this primitive method, the word is ordinarily used to denote an article upon the material of which labor has been expended to make the finished product."

In *Anheuser-Busch Bottling Association* v. *United States*, 207 U. S. 560, this Court said:

> "In opposition to the judgment of the Court of Claims, counsel have submitted many definitions of 'manufacture', both as a noun and a verb, which, however applicable to the cases in which they were used, would be, we think, extended too far if made to cover the treatment detailed in finding 3 or to the corks after the treatment. The words of the statute are indeed so familiar in use and of meaning that they are confused by attempts at definition.

> Their first sense as used is fabrication or composition—a new article is produced of which the imported material constitutes an ingredient or part. When we go further than this in explanation we are involved in refinements and in impracticable niceties. Manufacture implies a change, but every change is not manufacture, and yet every change in an article is the result of treatment, labor, and manipulation. But something more is necessary, as set forth and illustrated in Hartranft vs. Weigmann, 121 U. S. 609, 30 L. Ed. 1012, 7 Sup. Ct. Rep. 1240. There must be transformation; a new and different article must emerge, 'having a distinctive name, character, or use'. This cannot be said of the corks in question. A cork put through the claimant's process is still a cork."

Without quoting therefrom, we particularly call the Court's attention to its decision above cited, viz., *Hartranft* v. *Weigmann*.

It is submitted, on the foregoing, that the claimed invention of the Slate patent is not a "manufacture" under the statute. At best, if invention be present in the patent at all (and this we deny), it is a *process* and not a *manufacture*. If it is not a *process*, it becomes nothing more or less than an *idea*, and as such, is not patentable. *The Rubber Tip Pencil Company* v. *Howard*, 87 U. S. 498.

Summary.

It is therefore submitted that the alleged invention of the Slate patent, viz.: the specific relative locations of the specified refrigerant and the materials to be refrigerated, in a container, to form a transportation package, is neither an art, machine, manufacture, nor composition of matter, and hence is not subject matter for which the grant of Letters Patent of invention was authorized by Section 4886 R. S. The patent is therefore invalid.

THIRD POINT.

The Slate Patent Is Invalid for Other Reasons.

In addition to the invalidity of the Slate patent under Section 4886 R. S., there are other conclusive reasons for the invalidity thereof. Briefly stated, and considered in the order of their statement, these reasons are:

1. Because of aggregation of uncorrelated elements.

2. Because of anticipation and want of patentable novelty.

3. Because of insufficiency of disclosure.

4. Because of prior knowledge and use.

1. *Aggregation.*

If, contrary to the argument hereinbefore presented, the alleged invention of the Slate patent can be considered as a "manufacture", the claims must be construed as defining a specific *structure*, and patentable novelty therefor must be found in such novelty as may exist in the *structure*. Even in this view of the case, the patent is absolutely invalid. As a physical structure, it will be quite apparent that it is wholly immaterial what *specific* refrigerant is used. In other words, there is no patentable combination between the *specific* refrigerant, solid carbon dioxide, and the material to be refrigerated, or the container in which it is packed. The claims of the patent, as has been hereinbefore pointed out, are not concerned with any particular size, shape or material of the container. Likewise, the claims are not concerned with any particular material to be refrigerated. It follows, therefore, that there is no pat-

entable combination between the container, the material to be refrigerated, and a *specific* refrigerant. By way of illustration, it is believed to be quite obvious that no patentable combination can exist between a specific food stuff, such as ice cream, and a container for transporting the ice cream, any more than there can be a patentable combination between any material and its box, container, bottle, or wrapper. If patentable invention is present, it must be in the *structure* of the box, container, bottle, or wrapper. It therefore follows that there can be no patentable combination between the *specific* refrigerant, solid carbon dioxide, the material to be refrigerated, and the container in which both are packed. The fact that the solid carbon dioxide sublimes, evolving carbon dioxide gas having a refrigerative effect due to its temperature, is not the discovery of Slate, but is the inherent and natural property of solid carbon dioxide when exposed to normal temperature and pressure conditions.

Viewed in this light, it is submitted as quite apparent, that the claimed combination of the three elements of the Slate patent, viz: a *specific* refrigerant, material to be refrigerated, and a container for both of them, is a mere aggregation of old elements where each performs its function in its old, inherent, or to be expected way. In other words, *any* refrigerant surrounded by *any* material to be refrigerated, both of which are located in *any* container, will function in the same way to produce the same results. Obviously, where a refrigerant (irrespective of its *specific* kind) is placed in the center of materials to be refrigerated, such materials inevitably constitute insulation between the refrigerant and the outside atmosphere. The cold from the refrigerant radiates outwardly in any event, in such an arrangement, and whether this is done by gas inherently evolved from solid carbon dioxide or from cold air inher-

ently radiated from ice is wholly immaterial. There may be a difference in *degree* of refrigerative effect, but no difference in kind or principle. The claims of the Slate patent are invalid, therefore, for this reason.

2. *Anticipation and Want of Invention.*

Considering the invention of the patent to be for a physical structure, such structure consists of a portable package containing a refrigerant surrounded by a material to be refrigerated. Such a structure is anticipated by an ordinary icebox, or at least involves no patentable invention thereover, and brings this case squarely within the language of this Court in 1875 in *Piper* v. *Brown* (*ante*, p. 15).

To emphasize the lack of patentable novelty of the structure *per se*, reference will be had to a few of the instances of prior art patents and publications of record in the case.

Mosler & Ladewig Patent No. 236,906 of 1881, Defendant's Exhibit H-7 (Rec., p. 399).

This patent shows a structure which completely anticipates each and every claim of the patent when such claims are considered as being for a structure. The device shown and described is a transportation package for butter to enable the butter "to be sent to market or stowed away for use" (Rec., p. 400). It consists of an outer container B with an inner container D in which latter container the refrigerant is to be placed. It will be noted that the ice container D is surrounded on all sides (with the exception of the top) by the material to be refrigerated, in this instance, butter located in the trays C. It is quite obvious that no invention is involved in also placing butter on the top of the refrigerant container, if desired.

Drummond Patent No. 533,794 of 1895, Defendant's Exhibit H-8 (Rec. p. 401).

This patent is for a "refrigerator shipping box". The materials to be refrigerated and shipped are placed in the central receiving chamber 7 and are surrounded by side, top and bottom compartments in which the refrigerant is to be placed. In this instance it will be noted that the exact opposite of the Slate arrangement is employed, *i. e.* the materials to be refrigerated and shipped are placed in the center and are to be surrounded by the refrigerant. Obviously, no invention resides in reversing this arrangement.

Rumpel Patent No. 1,130,932 of 1915, Defendant's Exhibit H-9 (Rec., p. 404).

This patent shows a portable container having a refrigerant compartment 4 in the centre thereof so as to be surrounded, on all sides and top, by the material to be refrigerated in transportation. Obviously, Slate made no invention over this disclosure.

Josephson Patent No. 1,151,119 of 1924 (Applied for October 3, 1922), Defendant's Exhibit H-11 (Rec., p. 410).

This patent is directed to a portable refrigerating device employing carbon dioxide as the refrigerant. The refrigerant is supplied to a cone shaped cylinder 6 adapted to be placed in an outer container and surrounded by the material to be refrigerated, shown in this instance as a liquid.

It will be seen from the foregoing that the structures of the prior art completely anticipate the *structure* claimed by the Slate patent. We make this statement with knowl-

edge of the fact that several of the prior art structures, for convenience in renewing the refrigerant, leave one side (either top or bottom) unsurrounded by the material to be refrigerated, because of the obviousness of lack of invention in *completely* surrounding the refrigerant chamber if desired. It will be noted that when ice melts, water results. Accessibility to the refrigerant chamber is therefore ordinarily provided to permit the removal or other disposal of the water resulting from melted ice. Solid carbon dioxide, on the other hand, sublimes when it "melts", and is converted into carbon dioxide *gas* without becoming liquid carbon dioxide. For this reason accessibility to the refrigerant chamber is not necessary. The fact that solid carbon dioxide *sublimes*, however, is its inherent, physical property, known as long as solid carbon dioxide itself has been known, and of course is neither the discovery nor the invention of Slate. It cannot be seriously questioned that the claims of the Slate patent would be infringed by the structures of the prior art if solid carbon dioxide were placed in the refrigerant chamber of the prior art structures.

It will therefore be seen that the claims of the Slate patent differ from the prior art devices not in *structure*, but in the *specific refrigerant* employed. As a practical matter, the specific refrigerant that is employed is wholly dependent upon the degree of refrigeration desired, and the type of material to be refrigerated.

Elworthy British Patent No. 7436 of 1895, Defendant's Exhibit H-1 (Rec., p. 371).

As to the production of solid carbon dioxide and its use as a refrigerant in any desired structure, we refer the Court to the Elworthy British Patent No. 7436 of 1895

(Rec., p. 371). This patent points out (Rec., p. 379, fols. 452-453):

> "The solid carbon dioxide, either in the form of snow or broken ice, may be compressed into any of the following forms, for convenience of manipulation, and thus rendered available for nearly all purposes for which ice is now used, as well as for many other purposes, amongst which will be the manufacture of aerated waters, or other beverages, without machines of any kind.
>
> The solidified dioxide is compressed into the form of blocks or slabs, and these blocks or slabs may be scored, or divided, in such a way as to facilitate their being broken up into squares, or cubes, or tablets, or other forms of any suitable weight; and their weight, and also the quantity of gas that they will produce, at atmospheric pressure, may be impressed on each block, either at the time of compression, or at a subsequent operation. In this way a known weight, or volume, may be readily broken off, and sold, or used in an ordinary ice box, or in the improved form of ice box, hereinafter described."

The patent further states (Rec., p. 381)—

> "The solidified gas can be carried in simple felt bags, or bags of other non-conducting material. It can also be stored or transported in an ordinary ice-box, or in the improved form of ice-box now to be described."

After describing a heavily insulated form of box, the patent continues (Rec., p. 381, third paragraph)—

> "By these improved means of preparing, and transporting solidified carbon dioxide, this material will be rendered available for all,—or nearly all—purposes for which ice is now used, as well as for many other purposes for which the latter is unsuitable."

United States Patent No. 579,866, corresponding to the British Patent, issued to Elworthy in 1897. (Defendant's Exhibit H-3, Rec., following p. 308.)

In view of the foregoing art, we submit that the alleged invention of the Slate patent, if considered to be a *structure*, is completely anticipated by the prior published art. Irrespective of what the Slate invention may be considered to be, it involved no *patentable* invention over what was known to the world at the time the application for patent was filed.*

3. *Insufficiency of Disclosure.*

This defense is based upon the testimony of Respondents' witness Jones, evidently adduced in the effort to try to build up patentability for the subject matter of the patent, and to impart some patentable merit to the use of the specific refrigerant (solid carbon dioxide) in transportation packages. His testimony on the subject is found in his answer to the question in direct examination, beginning at the bottom of page 150 of the record, and under cross examination, beginning at page 152 of the record and extending throughout the entire cross examination. The substance of his testimony is, that to produce a practical structure, permitting the use of solid carbon dioxide in the arrangement forming the invention of the patent in suit, *a number of factors must be intelligently taken into account, and the package scientifically designed as a result thereof.* These factors, as developed from his testimony, consist of—

(1) Proportioning of the insulation.

(2) The amount of purging.

* No effort was made to carry the date of invention of the patent back of the filing date of the application, viz: January 10, 1924.

(3) The amount of voids.

(4) Rate of evaporation of the solid carbon dioxide.

(5) Frequency of purging.

(6) Temperature of the product to be shipped.

(7) Relative quantity of refrigerant and product.

(8) Size of insulation of the outer container.

(9) Kind of insulation employed.

(10) Size and kind of insulation of container for the solid carbon dioxide.

(11) The heat transferred to the outside of the package.

(12) The dimensional relation of the most remote part of the material to be refrigerated, and the solid carbon dioxide itself, as effected by all of the foregoing factors.

All of the foregoing factors, according to the testimony of Jones, *must* be known to permit the design of a practical, workable structure embodying the alleged invention of the patent.

If the testimony of Jones is true (*and Respondents are bound by it*) then it is perfectly obvious that no one would be able to manufacture and use the alleged invention of the patent, because the patent is entirely silent as to *all* of those factors.

As stated by Jones in answer to Judge CAMPBELL'S question (Rec., p. 155, fol. 222):

"Q. A man might stumble on it if he stumbled properly?

A. That is the point."

It logically follows from Respondents' evidence that no one, from the patent disclosure, could construct a practical container except purely by accident.

Section 4888 R. S. requires that an invention of a patent must be stated in

> "such full, clear, concise and exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same".*

If the patent fails to comply with the statutory requirements in this respect, the patent is void. *O'Reiley* v. *Morse*, 15 Howard 62. Whether or not a patent is invalid for this reason is a question of evidence and not of construction. *Loom Company* v. *Higgins*, 105 U. S. 580.

Where a factor necessary to be known, in order to construct a patented device, is left for experimentation, the patent is fatally defective. For example, as stated by this Court in the *Incandescent Lamp* case, 159 U. S. 465:

> "If the description be so vague and uncertain that no one can tell, except by independent experiments, how to construct the patented device, the patent is void."

To the same effect is *Grant* v. *Raymond*, 31 U. S. 218; *Wood* v. *Underhill*, 46 U. S. 1; *Tyler* v. *Boston*, 74 U. S.

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* The entire section of the statute is as follows:

"Sec. 4888. Before any inventor or discoverer shall receive a patent for his invention or discovery, he shall make application therefor, in writing, to the Commissioner of Patents, and shall file in the Patent Office a written description of the same, and of the manner and process of making, constructing, compounding, and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and in case of a machine, he shall explain the principle thereof, and the best mode in which he has contemplated applying that principle, so as to distinguish it from other inventions; and he shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery. The specification and claim shall be signed by the inventor."

327; *Bene* v. *Jeantet*, 129 U. S. 683; *Howard* v. *Detroit*, 150 U. S. 164.

From the foregoing, therefore, it will be seen that Respondents, overzealous in their endeavor to take the alleged invention of the Slate patent out of the realm of *obviousness* (where it belongs), and put it in the realm of *invention* (where it does not belong), have adduced evidence, by which they are bound, setting forth as *essential*, the factors necessary to be known in order to use the invention, but as to all of which the patent is silent. The result is that the patent is invalid, by Respondents' own admission, for insufficiency of disclosure.

4. *Prior Knowledge and Use.*

The record in this case presents facts of prior knowledge and use in the four practical fields in which solid carbon dioxide as a refrigerant would logically be expected to have been used, to wit:

(1) In the scientific and educational laboratories (Professor Jesse B. Churchill).

(2) In the practical, commercial refrigeration art (John E. Starr).

(3) In household refrigeration (Joseph P. Lavigne).

(4) In the medical, surgical and therapeutical art (Dr. J. C. Goosmann).

These instances of prior knowledge and use will be briefly reviewed in the above recited order.

(1) *Professor Churchill* (Rec., pp. 55, *et seq.*).

Professor Churchill was an instructor at Pennsylvania State College until 1915. While instructing the students in

the sciences in his laboratory, he preserved animal tissues, etc., by freezing them with solid carbon dioxide. He preserved and froze liquids in the same manner. His testimony is short and complete, and the equipment he employed is graphically illustrated in the drawings that he produced and which are in evidence as Defendant's Exhibits D1 to D6 (reproduced Rec., beginning opposite p. 326). The solid carbon dioxide, in the arrangement shown in Exhibits D1 to D4, inclusive, surrounded the material to be refrigerated. In the arrangement shown in Exhibits D5 and D6, the carbon dioxide was provided with insulation in the form of a wrapping therearound. It will be understood that anything wrapped around the refrigerant constitutes insulation. Professor Churchill employed the exceedingly old housewife's method of wrapping the refrigerant with paper. It might be well to note that the same expedient was employed by Marchiony, under Respondents' instructions (Rec., p. 29, fol. 46). An outer container was likewise provided, in the form of a box. Professor Churchill went one step beyond the disclosure of the patent, in wrapping the outer container with a blanket. The only difference that exists between the arrangement used by Professor Churchill, and the arrangement of the patent in suit, is that the refrigerant was not completely surrounded by the material to be refrigerated. This, of course, is a difference that is wholly immaterial from a patentable or practical viewpoint. The function of refrigerating the material by solid carbon dioxide was performed wholly irrespective of any particular location of the refrigerant with respect to the material to be refrigerated. Likewise, the refrigerative effect of the carbon dioxide gas, evolved by sublimation, was inevitably secured.

It will be seen, therefore, that what Professor Churchill used in his science laboratory, and in instructing the stu-

dents of Pennsylvania State College many years prior to the filing date of the Slate patent, constitutes an anticipation of anything of a patentable nature described or claimed in the Slate patent.

(2) *John E. Starr* (Rec., pp. 43, *et seq.*).

Mr. Starr is perhaps the leading authority in the United States on commercial refrigeration. His familiarity with solid carbon dioxide, as a refrigerant, is clearly established by his testimony. There were two instances of prior use by himself, which were proven. The first of these instances was in St. Louis, where Mr. Starr was requested by a physician to make a test to determine the cheapest manner of freezing human tissue, and maintaining it frozen, so as to permit slices thereof to be used for microscopic examination. The only determining factor was cost. Mr. Starr produced a portable carbon dioxide ice-box, and compared its cost with the so-called "Fountain" system of refrigeration. The structure that he produced, and as concisely described by himself, completely anticipated the claims of the patent in suit. The box was "transported", by means of a truck, across the city to the physician. All of this occurred prior to 1905.

The second instance was a similar investigation, conducted by Mr. Starr, to determine the relative cost of refrigeration by means of solid carbon dioxide, as compared with water ice. This was done in New York for Mayor Hugh Grant, while he was alive. This definitely fixes the time as prior to 1910, the year of the death of Mayor Grant.

Mr. Starr used a refrigerator, employing in one instance water ice as the refrigerant, and in the other instance, solid carbon dioxide. Comparative tests were made and water ice was determined to be the cheaper.

Mr. Starr's original notes of both the St. Louis comparison and the New York comparison are in evidence as Defendant's Exhibits F and G (reproduced Rec., opposite p. 366). From the data of these exhibits, Mr. Starr reported that at that time solid carbon dioxide was more expensive as a refrigerant for common use than ordinary water ice.

(3) *Mr. Lavigne* (Rec., p. 95).

An ice-box (designed by a man named Sorenson) to use solid carbon dioxide instead of water ice, was brought to Mr. Lavigne. The actual ice-box is in evidence as Defendant's Exhibit J. This solid carbon dioxide refrigerator formed the basis of a corporation created to manufacture refrigerators employing solid carbon dioxide as the refrigerant. The box has a center container in which the material to be refrigerated is placed. The container is completely surrounded by solid carbon dioxide. The box is formed of heavy insulation material. This refrigerator was brought to Mr. Lavigne during the year 1923. Lavigne was employed to design, from the Sorenson structure, a practical, commercial ice-box. At least as early as October, 1923, he designed a structure which formed the basis of the incorporation of the Refrigerator Products Company. The prospectus of that company is in evidence as Defendant's Exhibit M (reproduced Rec., beginning p. 423). A commercial, full-sized operating structure was made, and a photograph taken thereof is in evidence as Defendant's Exhibit L (not reproduced in the record). Great publicity was given to the structure, and an article showing and describing it appeared in the Rochester Herald of March, 1924. This article is in evidence as Defendant's Exhibit T (reproduced Rec., following p. 428).

Petitioner's witness, Hedican (Rec., p. 128), completely corroborated the proofs as to the commencement of the commercial operations with this ice-box, and the making of complete drawings thereof prior to the filing date of the patent in suit.

In the Lavigne structure the solid carbon dioxide was employed to freeze water, as in the case of the present well known household electric refrigerators, and the heat absorption of the solid carbon dioxide was used for refrigerating the contents of the ice-box, the sublimed gases from the solid carbon dioxide escaping into the ice-box for that purpose.

The only thing that can be said with respect to the Lavigne ice-box is that it was expensive. Of course, the law is not concerned with expense. The fact that water ice was cheaper than solid carbon dioxide, or may be now, for that matter, and that carbon dioxide has come into present day use notwithstanding that fact, is certainly not attributable to the patent in suit.

(4) *Dr. Goosmann* (Rec., p. 117).

It is believed to be unnecessary to review the evidence of Dr. Goosmann, the expert in the medical, surgical and therapeutical art, as the use of solid carbon dioxide, as well as the manner of its use and the production, storage and transportation thereof, in that art, is fully set forth in his book, copyrighted by him in 1918, and entitled "CO_2 Ice Therapy—Carbon Dioxide Solidified". This book is in evidence as Defendant's Exhibit S (reproduced in the record following p. 428).

Summary.

Thus it will be seen that long prior to any date claimed by or for the patentee in the present case, solid carbon dioxide had been produced and used, and the various inherent physical characteristics thereof taken advantage of. This was so, not only in the scientific laboratory and schools, medical and surgical science, but also in the field of commercial and domestic refrigeration, and specifically in the field of transportation of refrigerated materials.

In view thereof, it is impossible to find any feature of the Slate patent elevated to the dignity of "invention".

Conclusion.

It is therefore submitted—

(1) The sale by Petitioner of the unpatented commodity, solid carbon dioxide, perishable in nature, did not and cannot constitute an act of contributory infringement of the Slate patent.

(2) The Slate patent is invalid as having been improvidently granted for subject matter which is not patentable under Section 4886 R. S.

(3) There has been no complete infringement proven in this case to which Petitioner did or could contribute.

(4) The Slate patent is invalid because of anticipation, want of patentable novelty, insufficienty of disclosure, aggregation of uncorrelated elements, and prior knowledge and use.

(5) The construction given to the Slate patent by the Court of Appeals below, is in contravention of Section 3 of the Clayton Act and the decisions of this Court.

The decision of the Court of Appeals for the Second Circuit is therefore erroneous, and should be reversed.

Respectfully submitted,

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Dated October 21, 1930.

Lawyers Press, Inc., 165 William Street, New York City, N. Y.